



City of Mesa
Utilities Department
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Take a moment to read your City of Mesa 2006 Water Quality Report



Taylor MacEwen, Age 9, Hermosa Vista Elementary

Getting involved

If you wish to provide input on water-related issues, the Mesa City Council meets at 5:45 p.m. the first and third Monday of each month in Council Chambers, located at 57 E. First St., unless otherwise noted. For a complete meeting schedule, visit www.cityofmesa.org/calendar/calendars.asp.

For more information

City of Mesa home page
www.cityofmesa.org
City of Mesa Water Quality Services
R.E. Eck, (480) 644-2621
E-mail address
water.quality@cityofmesa.org
Online water quality report
www.cityofmesa.org/utilities/water/water_quality_report
Maricopa County Environmental Services Dept.
(602) 506-6666
AZ Department of Environmental Quality (ADEQ)
(602) 771-2300
Environmental Protection Agency (EPA)
(800) 426-4791



En Español

Si quiere recibir esta información en español, por favor llame a Lucy Lopez y pídale que le mande el folleto sobre el agua de la Ciudad de Mesa. Puede comunicarse con ella por llamar al (480) 644-3683.

2006 City of Mesa Water Quality Report

Water – we all need it!

That is why, when you turn on the tap in Mesa, you can be assured of safe, clean drinking water. The employees of Mesa's Utilities Department are dedicated to providing water that meets or exceeds state and federal drinking water quality standards. We are pleased to report that 2005 was another excellent year.

We hope you'll take the time to review this information and direct any questions or comments you may have to the offices and agencies that can best assist you. Contact numbers have been provided for you in this report.

Water's varying tastes

The City of Mesa can experience seasonal taste and odor problems associated with the drinking water. Customers often describe the taste and smell as "musty-dusty or earthy." The primary causes are Geosmin and Methylisoborneol (MIB), which are non-harmful, naturally-occurring compounds associated with algae growth in lakes and canals. The safety of the water is not at risk; however, some individuals may perceive that the water is unsafe to drink because it has an unpleasant smell or taste.

To minimize taste and odor problems, powdered activated carbon (PAC) is added during the water treatment process. Regular

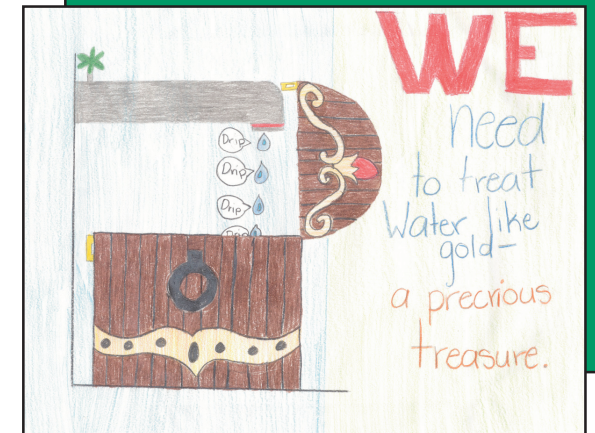
analysis of water samples helps determine how much PAC to use and identifies necessary adjustments to the treatment process.

The City's goal is to eliminate taste and odor problems associated with the drinking water. As part of the City's \$38 million expansion at the Central Arizona Project Water Treatment Plant (CAP WTP) the addition of PAC has been relocated prior to any other treatment chemical, to enhance the PAC contact with taste and odor compounds, and to prevent other treatment chemicals from interfering with the PAC absorption of taste and odor compounds. We will continue to use new technologies and improve existing processes to meet this goal.

Hard Water

Hard water is created when magnesium and calcium – two common minerals present in Arizona soil – dissolve in the water. Mesa's water hardness ranges from 12 to 22 grains per gallon (gpg), depending on the water source. Hard water poses no health risk but can be troublesome to consumers. It causes soap deposits in sinks and spots on dishes and faucets. Calcium deposits can also affect pipes, water heaters, and dishwashers.

Nicole Hayes, Age 10, Nathan Hale Elementary



An option for reducing water hardness is to install a salt-based water softener. There are many types available, so be sure to evaluate the performance capabilities of the product, as well as the reputation of the company. Once installed, it is important to follow the manufacturer's recommendations and service the unit regularly. *Refer to the table on the back page to determine the hardness in your area of the City.*

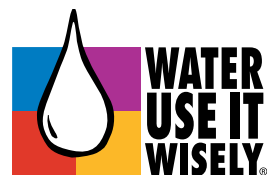
The high sodium content in soft water can damage plants, so landscape watering systems should be connected upstream of the softener. For information about the water softening process or how you can improve the taste of your drinking water, contact the Water Quality Services staff at (480) 644-2621.



Ensuring a water supply for the future

There are a number of ways to save water and they all start with you ... and us ... in fact, everyone must do their part to save water. The City of Mesa continues to look at ways to lower our water use and to help our customers save water too. Water used for City landscapes and other uses is closely monitored. Additionally, Mesa reuses the water that goes down the drain. After being cleaned and treated, some of the recycled water is used for parks, golf courses or roadway landscapes. The remainder is allowed to seep back into the ground for storage - a process called artificial recharge - an important tool for ensuring adequate supplies of water for current and future needs. Conservation efforts we make today will help to ensure an ample supply of water for future generations.

To find out what YOU can do to save water, contact Utilities Conservation at (480) 644-3306, visit www.cityofmesa.org/utilities/conservation, or learn more than 100 water saving tips at www.wateruseitwisely.com.



Nick Sellitto, Age 8, Falcon Hill Elementary

More information about your water

Arsenic

While your drinking water meets the Environmental Protection Agency's (EPA) standard for arsenic, it does contain low levels of this element. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic. Some people who drink water containing arsenic in excess of the Maximum Contaminant Level (MCL) over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.



Lead and copper

Mesa monitored the water for lead and copper in 2003 at 57 residences throughout the community. The action levels established by EPA are 1.3 mg/L for copper and 0.015 mg/L for lead. None of the sites sampled in Mesa exceeded these values.

Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall and agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Turbidity

Turbidity is suspended particles or sediment in the water. We measure turbidity because it can interfere with disinfection and provide a medium for microbial growth. Turbidity has no health effects, but may indicate the presence of disease-causing organisms including bacteria,

viruses, and parasites that can cause nausea, cramps, and diarrhea.

On January 23, 2005, the required number of turbidity samples was not taken from the filters at the Val Vista Water Treatment Plant. Samples were taken from the reservoir prior to the water entering the distribution system and all were negative for coliform bacteria. The Val Vista Plant serves water to Phoenix and parts of Mesa. Mesa operations staff switched to well water to avoid negatively impacting our customers.

Mesa's compliance monitoring for all contaminants, including those listed above, provides an assurance to our residents that we meet or exceed all federal and state drinking water standards.

Other possible contaminants

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. You can obtain more information about contaminants and potential health effects by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791. The EPA has also prepared a citizen's guide called "Water on Tap: A Consumer's Guide to the Nation's Drinking Water."

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity. Contaminants that

may be present in source water include:

Microbial contaminants, such as viruses and bacteria that may come from improperly operated sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges,

Stephanie Long, Age 8, Hermosa Vista Elementary



oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

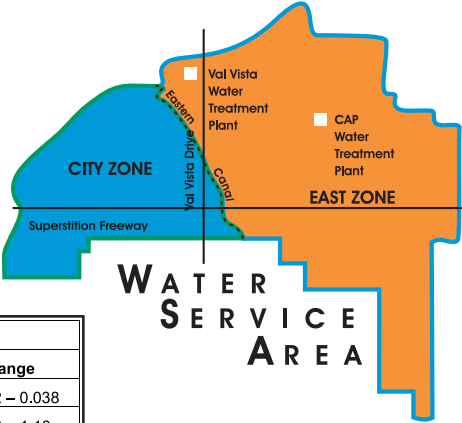
To ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water. Individuals can get more information from the FDA.

Taking special precautions

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people such as persons with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Water Quality Data

The table below lists drinking water contaminants detected in calendar year 2005. The presence of contaminants does not indicate that the water poses a health threat. The table is color-coded to match the zones as shown on the map. The Eastern Canal is the dividing line between the City's two major water service areas. The canal runs diagonally southeast through Mesa from Gilbert and McDowell to Greenfield and Baseline.



Parameter (Values listed in mg/L unless noted)	MCL	MCLG	City Zone		East Zone		Groundwater	
			Average	Range	Average	Range	Average	Range
Arsenic	0.05	N/A	<0.001	N/A	0.002	N/A	0.009	0.002 – 0.038
Asbestos	7 MFL	7 MFL	<0.2	N/A	<0.2	N/A	0.059	<0.2 – 1.10
Barium	2.0	2.0	0.062	N/A	0.107	N/A	0.029	0.02 – 0.067
Calcium	**	N/A	44	N/A	176	172 – 182	51	6 – 140
Chlorides	**	N/A	227	N/A	72.8	N/A	224	17 – 380
Chlorites	1.0	0.8	N/A	N/A	0.17	<0.05 – 0.32	N/A	N/A
Chromium	0.1	0.1	<0.005	N/A	0.004	N/A	0.008	0.001 – 0.029
Copper	1.3+	N/A	0.010	N/A	<0.01	N/A	0.004	N/A
Di (2-ethylhexyl) phthalate	0.006	0	<0.0006	N/A	<0.0006	N/A	0.0002	<0.0006 – 0.0008
Fluoride	4.0	4.0	0 – 1.22	0.39	0.51	0.11 – 1.22	0.39	0.1 – 1.3
Gross Alpha (pCi/L)	15	N/A	5.1	N/A	0.8	0.1 – 1.1	1.5	0.63 – 4.4
Haloacetic Acids (HAAs)	0.06	N/A	0.039	<0.002 – 0.10	0.031	<0.002 – 0.11	N/A	N/A
Hardness (grains per gallon)	**	N/A	10.4	N/A	17.4	16.8 – 17.1	12.0	0.58 – 24.0
Lead	0.015+	N/A	<0.001	N/A	<0.005	N/A	0.002	N/A
Nickel	0.1	0.1	0.001	N/A	0.001	N/A	0.003	<0.005 – 0.0062
Nitrate	10.0	10.0	<0.1	N/A	0.21	0.11 – 0.31	1.9	0.28 – 4.5
Nitrite	1.0	1.0	<0.1	N/A	<0.10	N/A	<0.5	N/A
Perchlorate	**	N/A	<0.004	N/A	0.0051	N/A	<0.004	N/A
pH (in pH units)	**	N/A	7.79	7.32 – 8.06	7.40	7.20 – 7.60	7.8	7.1 – 8.7
Radium 226, 228 (pCi/L)	5	N/A	0.4	N/A	0.87	0.4 – 2.2	0.32	0.3 – 1.1
Selenium	0.05	0.05	<0.005	N/A	0.002	N/A	0.024	<0.005 – 0.1
Sodium	**	N/A	145	N/A	81.3	N/A	136	55 – 220
Tetrachloroethene (PCE)	0.005	0	<0.0005	N/A	<0.0005	N/A	0.0001	<0.0005 – 0.001
Total Dissolved Solids	**	N/A	578	5 – 842	660	650 – 688	557	160 – 900
Total Trihalomethanes (TTHM)	0.08	N/A	0.062	<0.0005 – 0.11	0.062	<0.0005 – 0.18	N/A	N/A
Turbidity (NTU)	0.5	N/A	0.05 – 2.01	0.11	0.06	0.04 – 0.08	N/A	N/A
Total Coliforms	MCL: No more than 5% of monthly samples may be total coliform positive				MCLG 0	Yearly average 0.30%	Monthly range 0 – 0.89%	

Important drinking water definitions

Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a community water system shall follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Treatment Technique: A required process to reduce the level of a contaminant in drinking water.

- + Action level for corrosion control treatment
- (<) Less than amount indicated
- ** Limits are not set for these parameters
- gpg Grains per gallon (water softener terminology)
- MFL Million fibers per liter
- mg/L All units are in milligrams per liter or parts per million
- N/A Not applicable
- NTU Nephelometric turbidity units
- pCi/L PicoCuries per liter, measurement for radiochemicals
- Range High and low measurements reported during year



Possible sources

- Arsenic – Natural deposits; orchard runoff
- Barium – Drilling waste; discharge from metal refineries; natural deposits
- Chloride – Natural deposits
- Chlorite – By-product of drinking water disinfection
- Di(2-ethylhexyl)phthalate – Chemical and plastics discharge
- Fluoride – Natural deposits; water additive
- Gross Alpha – Natural deposits
- HAAs – By-product of drinking water disinfection
- Nickel – Mining discharge; natural deposits
- Nitrate/Nitrite – Fertilizer runoff; Septic tank leaching; natural deposits
- Radium 226, 228 – Natural deposits
- Selenium – Discharge from petroleum or metal refineries; natural deposits
- PCE – Factory and dry cleaner discharge
- Total Coliforms – Human and animal fecal waste
- TTHMs – By-product of drinking water disinfection
- Turbidity – Soil runoff

Sidney Draughon, Age 10, Hermosa Vista Elementary



Please take a few moments to read through this brochure. In accordance with the Federal Safe Drinking Water Act, the City of Mesa is required to provide you with an annual report that details the safety and quality of your tap water.